

MSDS Number: 015

Agrichem (International) Limited

Issue Number: 014

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Material Safety Data Sheet

| SECTION 1 Identification of Preparation and Company | |
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| Product Name: | THYRAM PLUS |
| Synonyms: | 50% dispersed TMTD, H394, H396, H483. |
| Intended Use: | Fungicidal seed treatment |

| SECTION 2 Hazards Identification | |
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| | Harmful by inhalation and if swallowed. Consumption of alcohol increases toxic effect. Irritating to eyes and skin, especially as dry powder. May cause sensitization by skin contact. Very toxic to aquatic organisms and possibility of long term effects. |
| Ingestion: | Along with alcohol causes severe toxic symptoms and skin flushes (antabuse effect), especially in dry powder form. Possible risk of irreversible effects |
| Inhalation | If dispersion is strongly heated it may release acidic fumes which are corrosive to the respiratory tract. Current HSE Occupational Exposure Limit for dry powder 5mg/m ³ (8hr), or 10mg/m ³ (10 min). |

| SECTION 3 Composition/Information on Ingredients | |
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| Formulation: | 600g/L Thiram plus suspending/wetting agents and water. |
| <u>IUPAC Names:</u> | <u>CAS Numbers:</u> <u>EINECS</u> <u>Concentration:</u> |
| Tetramethyl Thiuram disulphide/Thiram [Xn] R20/22; [Xi] R36/38, R43, R48/22; N R50-53 | 137 - 26 -8 205-286-2 600 g/L, 50% w/w |
| Glycol | <10%w/w |
| Class: [Xn] R22 | |
| See 15, Regulatory Information and 16 Other Information for text of R phrases. | |

| SECTION 4 First Aid Measures | |
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| <u>First Aid</u> | If a person feels unwell after coming into contact with is product then seek medical advice. Remove contaminated clothing and wash thoroughly with soap and water. |
| Inhalation: | Remove patient to fresh air. Clear mouth, nose and throat, seek medical attention. |
| Ingestion: | Do NOT induce vomiting. Wash out mouth with water and give 200-300ml warm water to drink. Seek medical attention immediately. Alcohol intolerance (antabuse syndrome) may result from adsorption. |
| Eye Contact: | Irrigate with plenty of water for at least 15 minutes. Seek medical advice. |
| Guide to doctor: | Show this sheet where possible. Symptoms of poisoning include dermatitis, nausea, vomiting, diarrhoea, hyper excitability, weakness, fatigue and ataxia. Thiram is a dithiocarbamate fungicide, treat symptomatically. |

| SECTION 5 Fire Fighting Measures | |
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| | <p>Extinguish with water, polymer foam or alcohol-resistant foam, dry powder, CO₂. Do not use water jet.</p> <p>Wear respiratory protective equipment.</p> <p>Do NOT release chemically contaminated water into drains, soil or surface waters, retain for safe disposal.</p> <p>(Virtually non flammable as supplied, residue after evaporation of water may support combustion. Thermal decomposition or burning may release oxides of carbon, phosphorous and other toxic gases or vapours).</p> |

| SECTION 6 Accidental Release Measures | |
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| Personal protection: | Avoid contact with skin or eyes. Do not inhale mists. Avoid ingestion. |
| Environmental precautions: | Do not contaminate surface waters, ditches or vegetation with chemical or used container. |
| Spillage and Decontamination: | <p>Absorb and contain spillages with sand, earth, etc and collect material for storage in a safe place prior to disposal. Wash the spillage area clean with water and detergent.</p> <p>Should contamination occur, inform local water PLC immediately. Report any contamination of surface or ground waters to the National Rivers Authority or River Purification Board.</p> |

| SECTION 7 Handling and Storage | |
|---------------------------------------|---|
| Handling: | <p>Ensure there is sufficient ventilation of the area. Avoid contact with skin/eyes. Do NOT inhale mists. Avoid ingestion.</p> <p>When using do not eat, drink or smoke.</p> <p>Wash hands and exposed skin before meals and after work.</p> |
| Storage: | <p>Store away from heat, in tightly closed, original containers. Protect from frost, keep separate from animal feeding stuffs and fertilizers, segregate from other agrochemicals in specific agrochemical store. Agitate thoroughly before use.</p> <p>Maximum shelf life 2 years in unopened container at room temperature.</p> |
| Packaging: | <p>5L plastic containers, 4 per outer; 25L HDPE drum, 31.3kg net.</p> <p>50L/100L refillable/returnable HDPE drum.</p> |

| SECTION 8 Exposure Controls/Personal Protection | |
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| Engineering controls: | Ensure there is sufficient ventilation of the area. |
| Respiratory protection: | Wear suitable respiratory protective equipment to avoid exposure to mist. |
| Hand protection: | Wear protective gloves and water repellent barrier cream when handling concentrate. |
| Eye protection: | Safety goggles, faceshield. Ensure eye bath is to hand. |
| Skin protection: | Wear suitable protective clothing. Water repellent cream. |

| SECTION 9 Physical and Chemical Properties | | | |
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| Appearance: | Pink semi viscous liquid | | |
| Odour: | Slight | | |
| Boiling Point: | approx 100 °C | Vapour Density: | No data |
| Melting point: | 0°C | Vapour Pressure: | No data |
| pH: | 8.5 – 11.00 | Relative density: | 1.16 - 1.23 g/ml at 20 °C |
| Flash Point °C: | Not applicable | Solubility in Water: | Dispersible/Insoluble Suspension is miscible. |
| Flammability: | Not applicable | Solubility in Organic Solvents: | No data. |
| Explosive properties: | No data | Part.coeff. n-octanol/water | No data. |
| Oxidising: | No data | | |



| SECTION 10 Stability and Reactivity | |
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| Conditions to avoid: | Avoid dust formation. Extremes of temperature. Protect from frost. |
| Materials to avoid: | Strong acids, strong bases. Oxidising agents. |
| Hazardous combustion or decomposition product: | Oxides of carbon, nitrogen and sulphur. Burning produces irritant fumes. |

| SECTION 11 Toxicological Information | |
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| | May cause sensitisation by skin contact. Harmful if swallowed. Slightly irritating to eyes and skin. Possible routes of exposure: eyes, skin, mouth and nose. |
| Inhalation: | Irritating to respiratory tract when dry. |
| Inhalation LC ₅₀ : | Active ingredient - acute inhalation toxicity LC ₅₀ (rat): 4.4 mg/l (4 hour) |
| Oral LD ₅₀ : | Limit test (rat) >2000 mg/kg body weight |
| Skin Contact: | Active ingredient - (guinea pig) dermal sensitizing agent |
| Dermal LD ₅₀ : | Active ingredient - acute dermal toxicity LD ₅₀ (rabbit): above 2000 mg/kg |
| Eye Contact: | Irritating to eyes |
| Mutagenicity, Carcinogenicity Reproductive toxicity: | Did not show effects in animal experiments. |
| T. L. V: | Current HSE Occ Exposure Limit for dry powder 5 mg/m ³ (8 hour), or 10 mg/m ³ (10 min). |

| SECTION 12 Ecological Information | |
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| | Harmful to fish and aquatic life. Do not contaminate surface waters or ditches with chemical or used container. Should contamination occur, inform local water PLC immediately. Report any contamination of surface or ground waters to the National Rivers Authority or River Purification Board. |
| | All information below refers to the active ingredient |
| Ecotoxicity: | Very toxic to aquatic organisms. LC ₅₀ (fish): 0.046 to 1.20 mg/l. EC ₅₀ (48hr) Daphnia: 0.01mg/l. EC ₅₀ (120hr) Algae: 0.24mg/l. IC ₅₀ (3hr) Bacteria: 3.1mg/l. |
| Mobility: | Koc : 2245 – 24526. |
| Persistence and degradability: | N-octanol/water partition coefficient: log PO/W =1.73. Product is miscible with water. Degradation half-life: after 2 – 7 days. |
| Bioaccumulative potential: | This material has minimal potential to bioaccumulate in aquatic species. |

| SECTION 13 Disposal Considerations | |
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| Waste Disposal: (including containers) | Dispose of by incineration or at an authorised waste disposal site (consult local Environment Agency office for details on regulations and available sites). For small quantities of product follow the guidance given on the disposal of pesticides and containers as given in part 5 of the MAFF/HSE Pesticides Code of Practice for the Safe Use of Pesticides on Farms and Holdings. |

| SECTION 14 Transport Information | |
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| Hazard Symbols : Xn N | |
| UN Number: 3082 | Packing Group: III |
| Sea Environmentally Hazardous Substance | |
| IMDG Class- primary: 9 Miscellaneous Dangerous Substance | |
| Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Thiram 50% w/w) | |
| EMS Number: None | MFAG Table Number: None |
| Road/Rail UN 3082 | Air UN 3082 |
| Class 9 Packing Group: III Environmentally Hazardous Substance, Liquid, N.O.S. (contains Thiram 50% w/w) | Class 9 Packing Group: III Environmentally Hazardous Substance, Liquid, N.O.S. (contains Thiram 50% w/w) |

| SECTION 15 Regulatory Information | |
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| MAPP No: 10785 | WHO Toxicity Class (a.i.): 111. |
| Classified by the current UK CHIP 4 Regulations. | |
|  |  |
| HARMFUL | N DANGEROUS FOR THE ENVIRONMENT |
| | IRRITATING TO EYES AND SKIN |
| Risk Phrases | R20/22 - Harmful by inhalation and if swallowed. R36/38 - Irritating to eyes and skin. R43 - May cause sensitization by skin contact. R48 - Danger of serious damage to health by prolonged use. R50/53 - Very Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment. |
| Safety phrases | S2 - Keep out of reach of children. S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37 - Wear suitable protective clothing and gloves. S45 - In case of accident or if you feel unwell, seek medical advice immediately (show label where possible). S60 - This material and its container must be disposed of as hazardous waste. S61 - Avoid release to the environment. Refer to special instructions/safety data sheet. |

| SECTION 16 Additional Information | |
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| This product must be used only for the treatment of seeds, it MUST NOT be sprayed onto growing crops. R48/22 Harmful, danger of serious damage to health by prolonged exposure if swallowed. | |

The data given in this sheet is based on current knowledge and experience and is given in good faith but without guarantee of accuracy and no liability is accepted whatsoever for any insufficiency or inaccuracy in such data in any case whatsoever.
The purpose of the Material Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regards to materials, properties or use.